Placa IBM High Rate Wireless LAN (PCI)

Guia do Usuário

OPTIONS
by IBM

Nota: Antes de utilizar estas informações e o produto a que elas se referem, leia as informações em “Apêndice B. Notices” na página B-1.

Primeira Edição (Setembro de 2001)

Safety: Read first

Before installing this product, read the Safety Information.

مج، يجب قراءة دات السلامة

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information（安全信息）。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前，請先閱讀「安全資訊」。

Índice

Prefácio

Sobre este Manual

Este Guia do Usuário contém instruções para instalação e uso da Placa IBM High Rate Wireless LAN (PCI) e é fornecido nos seguintes idiomas:

- Inglês
- Alemão
- Francês
- Espanhol
- Italiano
- Português do Brasil
- Chinês Tradicional
- Japonês

Registrando seu Opcional

Obrigado por adquirir os OPCIONAIS da IBM. Reserve alguns minutos para registrar o produto e fornecer informações que ajude a IBM a melhor servi-lo no futuro. Seu feedback é importante para desenvolvermos produtos e serviços úteis a você, bem como para desenvolvermos melhores formas de nos comunicarmos com você. Registre o opcional no site da IBM

http://www.ibm.com/pc/register

A IBM enviará a você informações e atualizações sobre o produto registrado, a menos que seja indicado no questionário do site que você não deseja receber informações adicionais.

Guia de Instalação Rápida

Esta seção fornece as descrições do produto e do software, o guia de instalação e do usuário.

Descrição do Produto

A Placa IBM High Rate Wireless LAN (PCI) é uma placa PCI padrão ajustável a qualquer slot PCI padrão. Ela possui um indicador de LED (diodo emissor de luz) e uma antena externa. Esta placa PCI é utilizada para criar uma rede sem fio que atenda ao padrão IEEE 802.11b das LANs sem fio. Ela suporta taxas de transferência de dados de até 11 Mbps. Essa placa PCI é totalmente compatível com outros sistemas de LAN sem fio com base na tecnologia DSSS (espectro de difusão de freqüência direta) de rádio, que atende ao padrão IEEE 802.11b das LANs sem fio. A placa suporta os seguintes recursos de LAN sem fio:

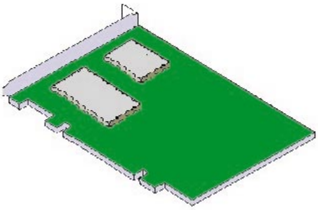
- Mecanismo de seleção ATR (Taxa de Transmissão Automática) na faixa alta, média, padrão e baixa
- Seleção de canal de freqüência (2.4 GHz)
- Roaming em vários canais
- Gerenciamento de Alimentação de Placa
- Criptografia de dados WEP (Wired Equivalent Privacy) com base no algoritmo de criptografia WEP de 64 e 128 bits, conforme definido no padrão IEEE 802.11 nas LANs sem fio

Além deste manual, o pacote contém:

- Placa IBM High Rate Wireless LAN (PCI)
- O *CD IBM Driver and Utility*
- *Guia de Instalação Rápida da Placa IBM High Rate Wireless LAN (PCI)*

Se algum desses itens estiver faltando ou danificado, entre em contato com o revendedor.

A placa PCI é uma placa de barramento PCI padrão que você pode utilizar para instalar a Placa IBM High Rate Wireless LAN (PCI) em um computador.



Instalando os Drivers de Dispositivo e o Software

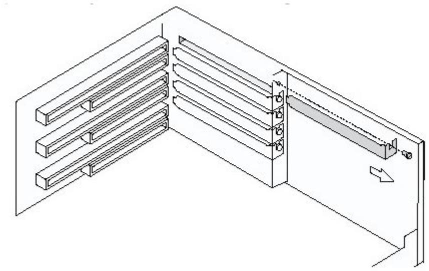
Seu computador deve possuir os seguintes requisitos para funcionar com a placa IBM High Rate Wireless LAN (PCI):

- Slot PCI compatível com a especificação para PCI
- Sistema operacional Microsoft Windows 95, Windows 98, Microsoft Windows 2000 Professional, Windows Millennium Edition (Me) ou Windows NT (Service Pack 6 ou posterior)
- No mínimo 5 MB de espaço livre em disco para o driver e o programa utilitário

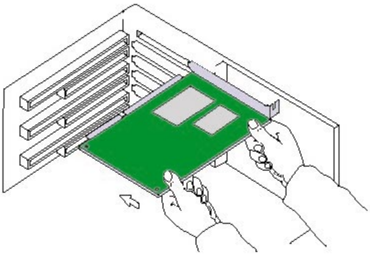
Instalando a Placa IBM High Rate Wireless LAN (PCI)

Para instalar a placa PCI no computador, siga cuidadosamente estas etapas:

1. Desligue o computador.
2. Desconecte os cabos de alimentação do computador e todos os dispositivos externos conectados ao computador.
3. Remova a tampa superior ou lateral do computador, de acordo com as instruções no guia do usuário fornecido com o computador.
4. Escolha um slot PCI disponível para a placa e remova a barra metálica de preenchimento. Guarde o parafuso para a montagem da placa.



5. Certifique-se de remover a antena da placa e insira cuidadosamente o conector da placa PCI no slot.

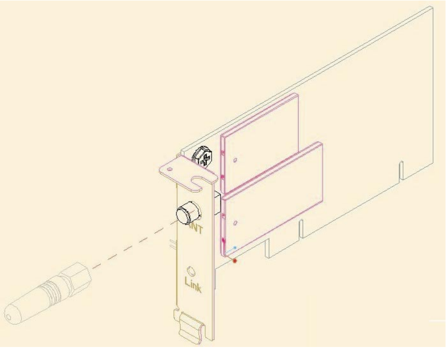


6. Prenda a placa no lugar com o parafuso removido na etapa 4.
7. Instale a antena, consulte "Instalando e Removendo a Antena" na página 1-3 para obter mais informações.
8. Recoloque a tampa do computador, de acordo com as instruções no guia do usuário fornecido com o computador.
9. Conecte novamente todos os dispositivos externos e cabos de alimentação do computador.
10. Ligue o computador para concluir a instalação do hardware.

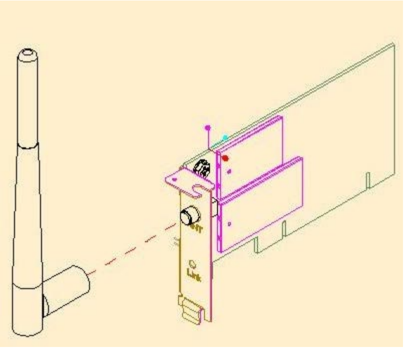
Instalando e Removendo a Antena

Há dois tipos de antenas que podem ser utilizadas com esta Placa Wireless LAN (PCI):

- A antena helicoidal é para o computador IBM NetVista™ X41



• A antena bipolar é para outros computadores IBM ou não-IBM

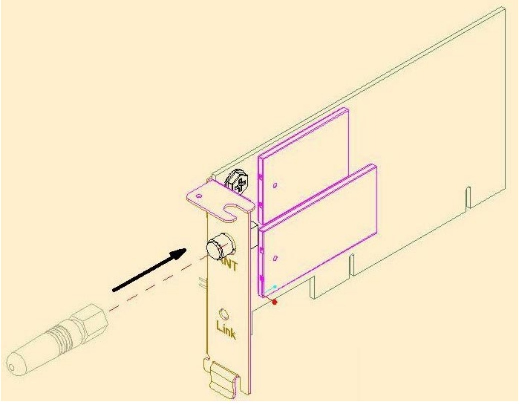


CUIDADO:

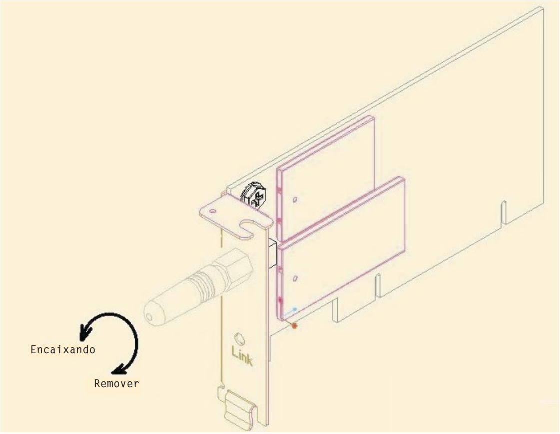
Verifique se o computador está desligado ao instalar ou remover a antena. A instalação ou a remoção da antena com o computador ligado pode causar acidentes ou danos à placa PCI. Nunca opere a Placa High Rate Wireless LAN (PCI) sem a antena instalada.

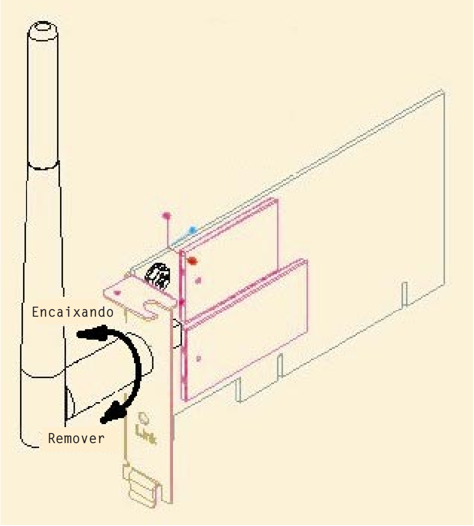
Instalando e Removendo a Antena

1. Verifique se o computador está desligado.
2. Insira uma extremidade da antena no conector de antena rotulado como **ANT**.



3. Instale a antena, rosqueando-a no sentido anti-horário, até que ela fique firmemente ajustada. Não aperte excessivamente.





Para remover a antena, inverta o procedimento anterior.

Instalando os Drivers de Dispositivo

Verifique se a instalação do hardware está concluída antes de ligar o computador e iniciar a instalação dos drivers de dispositivo e do software.

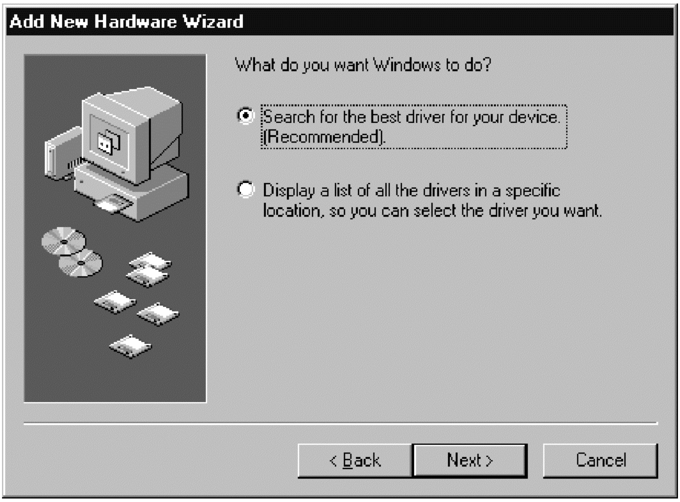
Instalando os Drivers de Dispositivo para Windows 95 e Windows 98

Siga este procedimento para instalar os drivers de dispositivo:

1. O Windows encontrará automaticamente a Placa IBM High Rate Wireless LAN (PCI) após ela ser fisicamente instalada.
2. Insira o *CD IBM Driver & Utility* na unidade de CD-ROM.
3. Clique em **Next**.



4. Escolha "Search for the best driver for your device".
5. Clique em **Next**.



6. Selecione **Specify a location.**
7. Entre com a localização do driver. A localização é a unidade na qual o CD foi inserido com um caminho de diretório ″\Driver″. Veja um exemplo na figura a seguir.



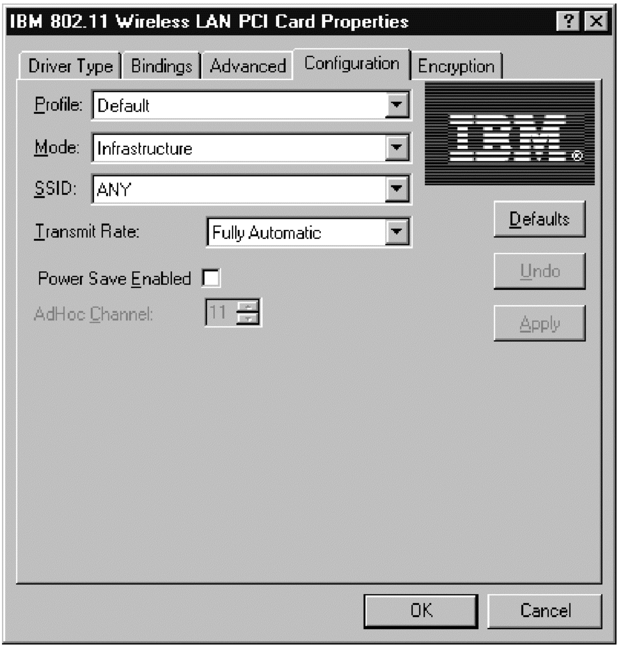
8. O Windows encontrará o seguinte arquivo para a instalação do driver de dispositivo.
9. Clique em **Next**.



10. Digite todas as informações específicas de rede sem fio na página de utilitários, para configurar a placa sem fio.

11. Clique em **OK** na conclusão.

Nota: Essas definições poderão ser alteradas mais tarde, conforme descrito na página 1-31 a 1-35.



12. Será necessário o CD-ROM original do Windows para concluir a instalação do driver. Remova o *CD IBM Driver & Utility* e insira o disco do Windows para concluir a instalação.



Nota:
O Windows poderá ter dificuldade para procurar os arquivos apropriados. Se isso acontecer, assegure-se de que o caminho para a unidade de CD-ROM esteja correto com um caminho \WIN98 ou \WIN95,

dependendo do sistema operacional. Clique em **OK**.



13. Clique em **Finish** para concluir o procedimento de instalação.



14. Escolha **Yes** para iniciar o computador novamente.



Instalando os Drivers de Dispositivo no Windows Me

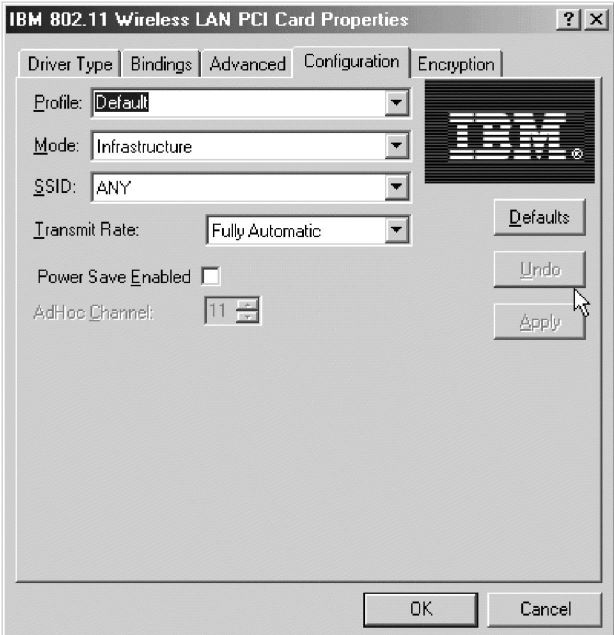
Para instalar os drivers de dispositivo no Microsoft Windows Millennium Edition (Me), proceda da seguinte maneira:

1. O Windows encontrará automaticamente a Placa IBM High Rate Wireless LAN (PCI) após ela ser fisicamente instalada.
2. Insira o *CD IBM Driver & Utility* na unidade de CD-ROM.
3. Selecione **Automatic search for a better driver**.
4. Clique em **Next**.



5. Digite todas as informações específicas de rede sem fio na página de utilitários para configurar a placa sem fio.
6. Clique em **OK**.

Nota: Essas definições poderão ser alteradas mais tarde, conforme descrito na página 1-31 a 1-35.



7. Clique em **Finish** para concluir o procedimento de instalação.



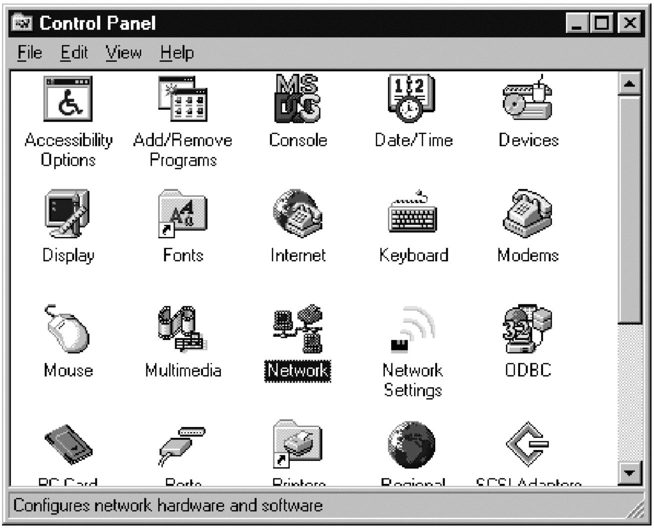
8. Clique em **Yes** para iniciar o computador novamente.



Instalando os Drivers de Dispositivo no Windows NT com a Rede Já Instalada

Siga este procedimento para instalar os drivers de dispositivo em um computador que esteja executando o Windows NT 4.0 com a rede já instalada:

1. Clique em **Start** → **Settings** → **Control Panel**.
2. Dê um clique duplo no ícone **Network**.

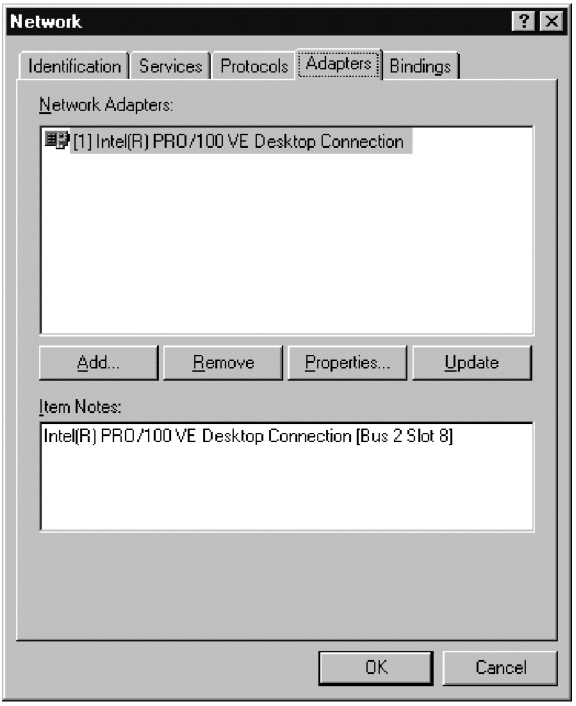


Nota: Se o Windows NT Networking não estiver instalado em seu computador, a janela a seguir será mostrada. Consulte seu administrador de rede para obter mais informações sobre como

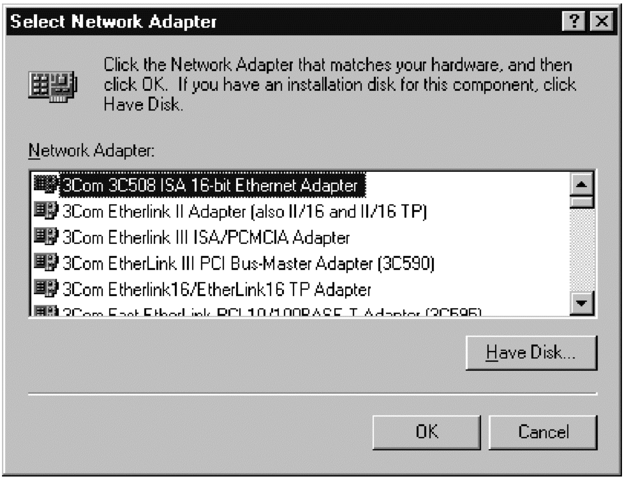
instalar o Windows NT Networking.



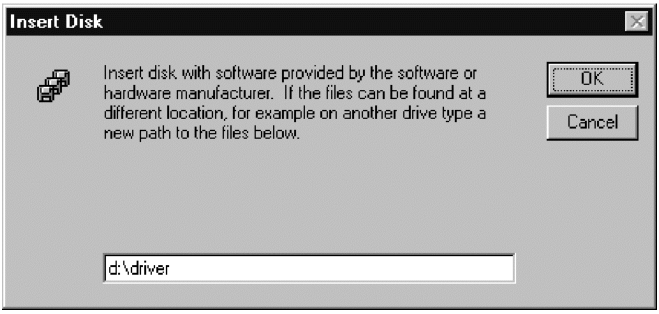
3. Clique na guia **Adapters**.
4. Clique em **Add** para adicionar uma nova placa.



5. Clique em **Have Disk**.

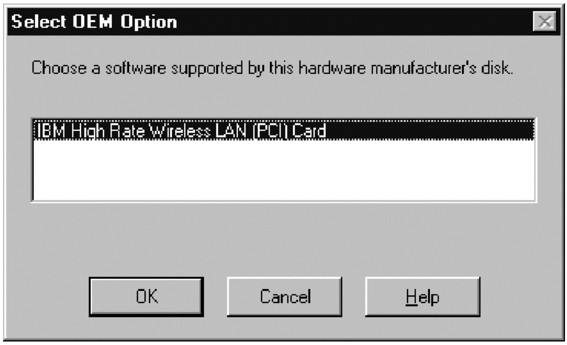


6. Entre com a localização do driver. A localização é a unidade na qual o CD foi inserido com um caminho de diretório "\Driver". Veja um exemplo na figura a seguir.
7. Clique em **OK**.



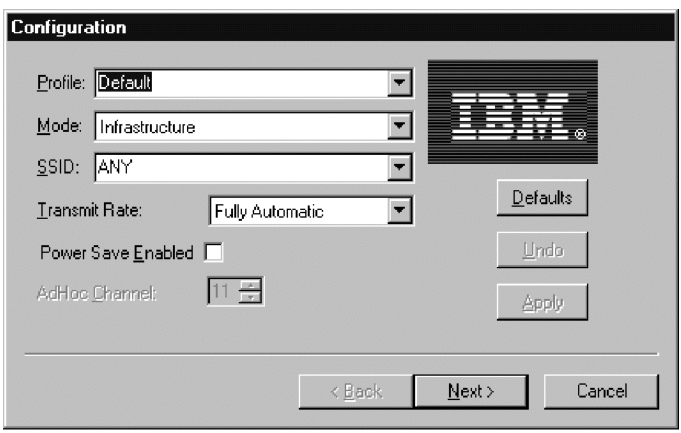
8. Selecione **IBM High Rate Wireless LAN (PCI) Card**.

9. Clique em **OK**.



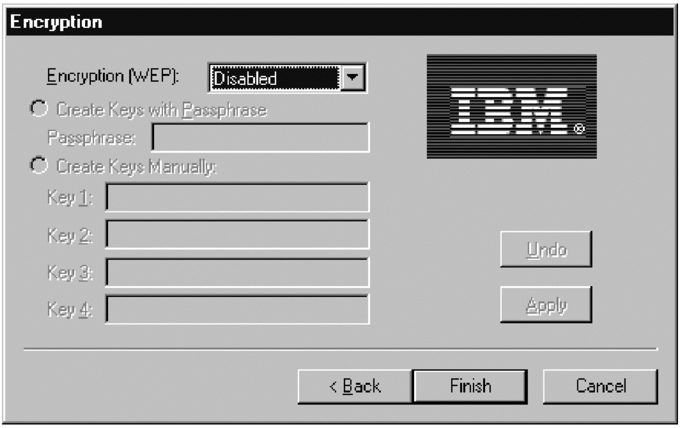
10. Digite todas as informações específicas de rede sem fio na página de utilitários para configurar a placa sem fio.
11. Clique em **Next**.

Nota: Essas definições poderão ser alteradas mais tarde, conforme descrito na página 1-31 a 1-35.

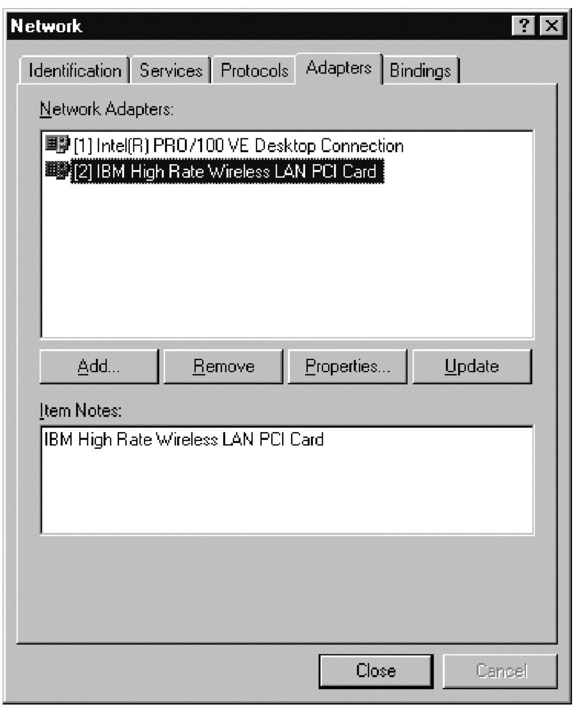


12. Se sua rede sem fio exigir criptografia WEP, modifique as definições de criptografia para atender aos requisitos descritos nas páginas 1-35 a 1-38.
13. Clique em **Finish**.

Para obter informações adicionais, entre em contato com seu administrador de rede.



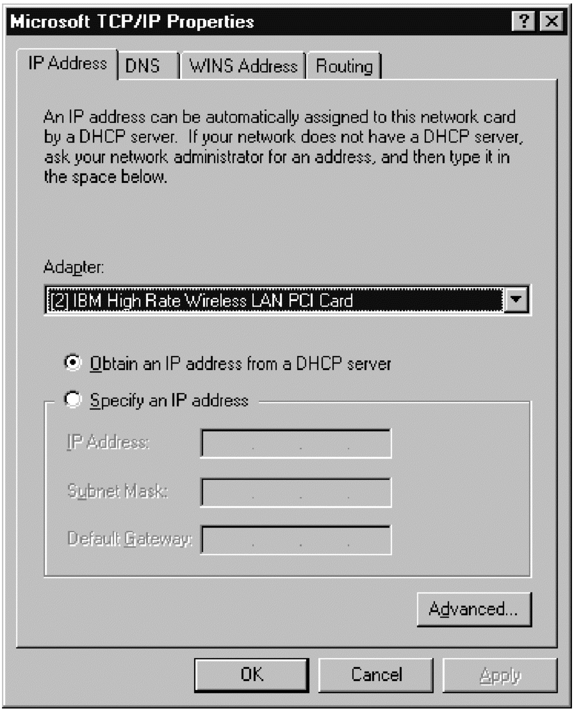
14. Na lista de placas, será exibida a Placa IBM High Rate Wireless LAN PCI.
15. Clique em **Close** para concluir a instalação.



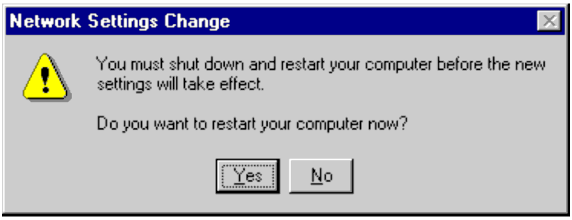
16. Se você tiver um servidor DHCP em sua rede, selecione ″Obtain an IP address from a DHCP server″. Caso contrário, você poderá entrar

manualmente com as informações de IP. Para obter informações adicionais, entre em contato com seu administrador de rede ou com o ISP (Fornecedor de Serviços de Internet).

17. Clique em **OK**.



18. Clique em **Yes** para iniciar o computador novamente a fim de concluir o procedimento de instalação.



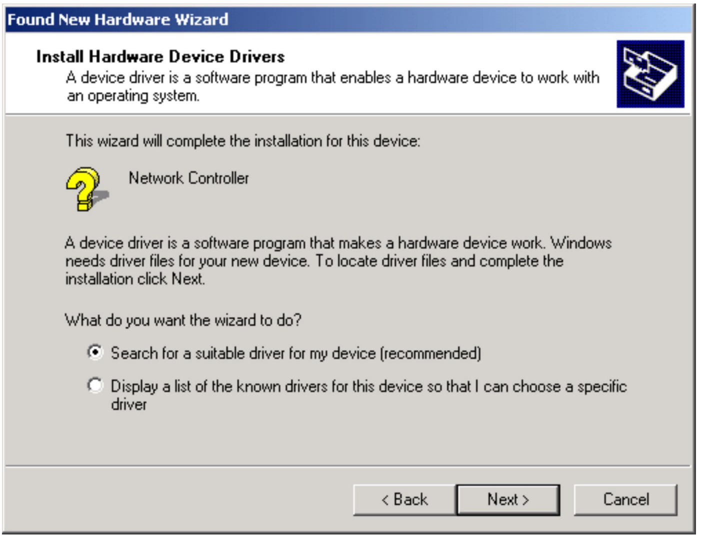
Instalando os Drivers de Dispositivo no Windows 2000

Siga este procedimento para instalar os drivers de dispositivo em um computador com o Windows 2000 em execução:

1. O Windows encontrará automaticamente a Placa IBM High Rate Wireless LAN (PCI) após ela ser fisicamente instalada.
2. Insira o *CD IBM Driver & Utility* na unidade de CD-ROM.
3. Clique em **Next**.

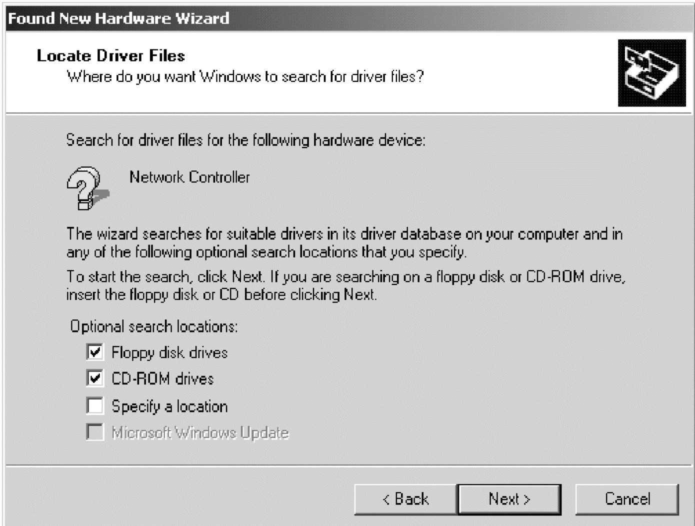


4. Selecione "Search for a suitable driver for my device".
5. Clique em **Next**.



6. Verifique se a caixa de entrada "CD-ROM drives" está selecionada.

7. Clique em **Next**.

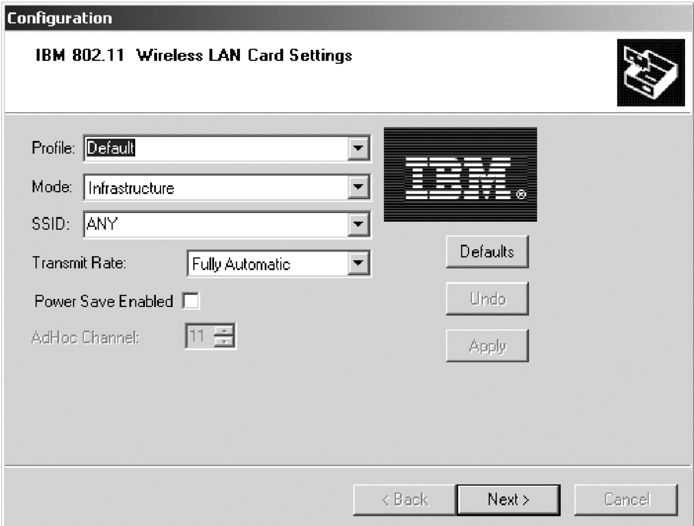


8. O Windows encontrará o seguinte arquivo para a instalação do driver de dispositivo.
9. Clique em **Next**.



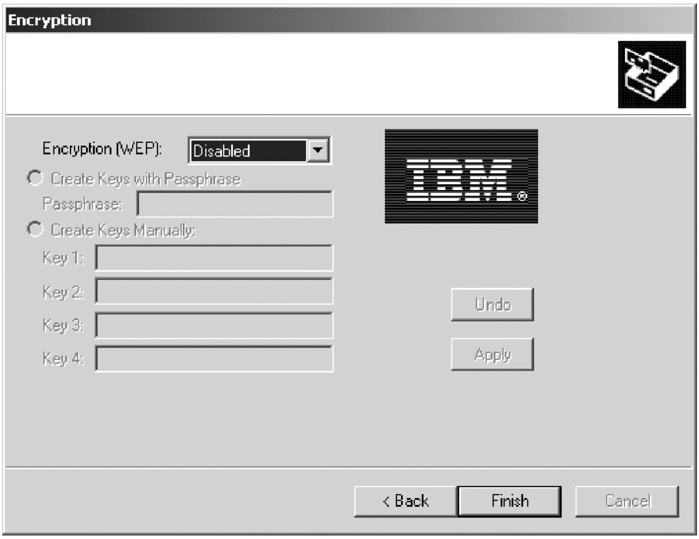
10. Digite todas as informações específicas de rede sem fio na página de utilitários para configurar a placa sem fio e clique em **Next**.

Nota: Essas definições poderão ser alteradas mais tarde, conforme descrito na página 1-31 a 1-35.



11. Se sua rede sem fio exigir criptografia WEP, modifique as definições de criptografia para atender aos requisitos descritos nas páginas 1-35 a 1-38.
12. Clique em **Next.**
13. Clique em **Finish** para concluir o procedimento de instalação.

Para obter informações adicionais, entre em contato com seu administrador de rede.



Configurando o TCP-IP para Windows 95, Windows 98 ou Windows Me

Para configurar o TCP-IP para Windows 95, Windows 98 ou Windows Me, proceda da seguinte maneira:

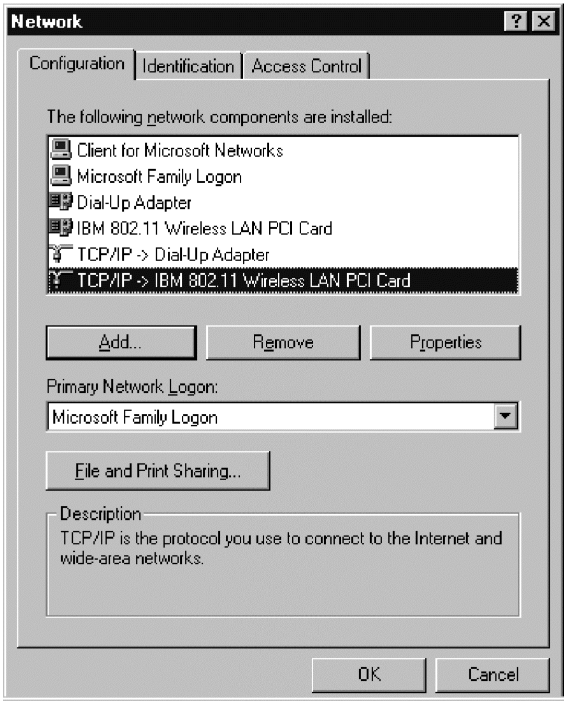
1. No botão **Start**, vá para **Start->Settings->Control Panel**.

2. Dê um clique duplo no ícone **Network**.



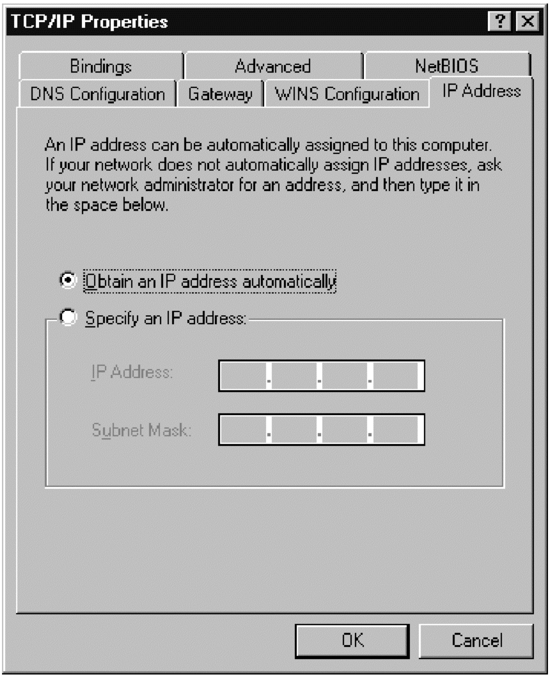
3. Selecione **TCP/IP->IBM 802.11 Wireless LAN PCI Card**.

4. Clique em **Properties**.



5. Se você possui um servidor DHCP em sua rede, selecione ″Obtain an IP address automatically″. Caso contrário, você poderá entrar manualmente com as informações de IP. Para obter informações adicionais, entre em contato com seu administrador de rede ou com o ISP (Fornecedor de Serviços de Internet).

6. Clique em **OK** para concluir.



Configurando o TCP-IP no Windows NT

Para configurar o TCP-IP no Windows NT, proceda da seguinte maneira:

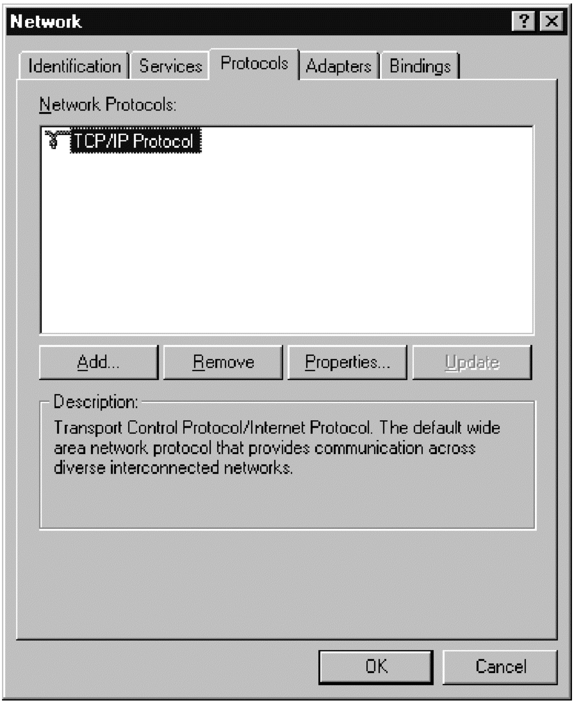
1. No botão **Start**, vá para **Start->Settings->Control Panel**.

2. Dê um clique duplo em **Network**.

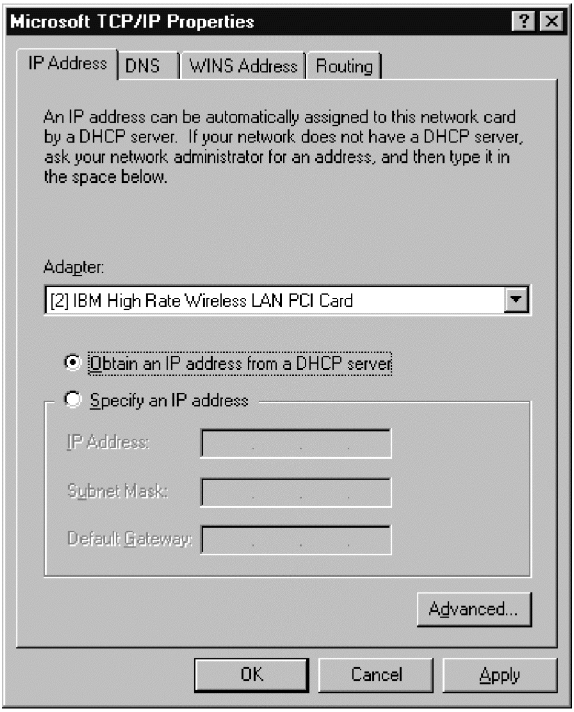


3. Selecione **Protocols**.
4. Selecione **TCP/IP Protocol**.

5. Clique em **Properties**.



6. Na seção Adapter, selecione IBM High Rate Wireless LAN PCI Card.
7. Se você tiver um servidor DHCP em sua rede, selecione ″Obtain an IP address from a DHCP server″. Caso contrário, você poderá entrar manualmente com as informações de IP. Para obter informações adicionais, entre em contato com seu administrador de rede ou com o ISP (Fornecedor de Serviços de Internet).
8. Clique em **OK** para concluir.

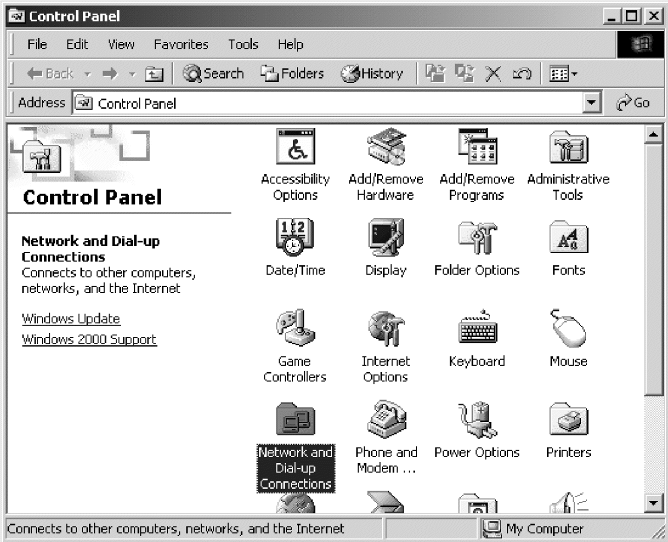


Configurando o TCP-IP no Windows 2000

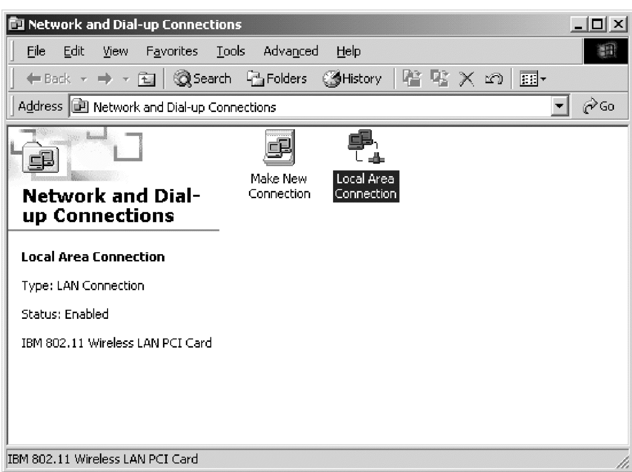
Para configurar o TCP-IP no Windows 2000, proceda da seguinte maneira:

1. Vá para **Start->Settings->Control Panel**.

2. Dê um clique duplo em **Network and Dial-up Connections**.

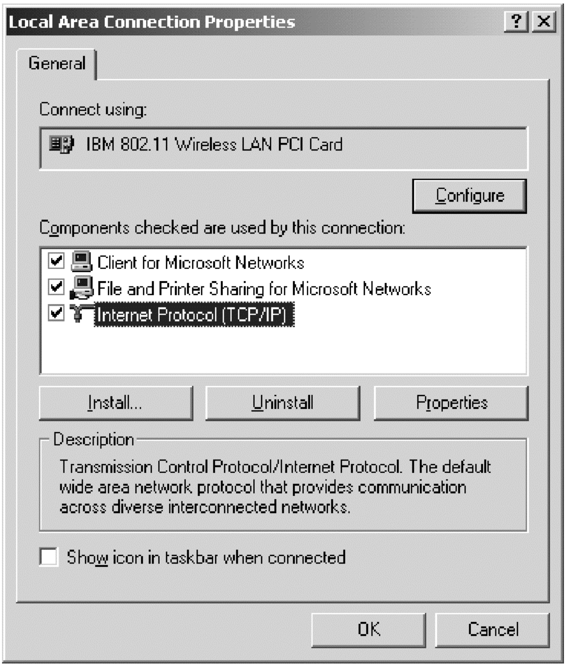


3. Clique com o botão direito do mouse em **Local Area Connection**, que se refere à rede sem fio.
4. Selecione **Properties**.



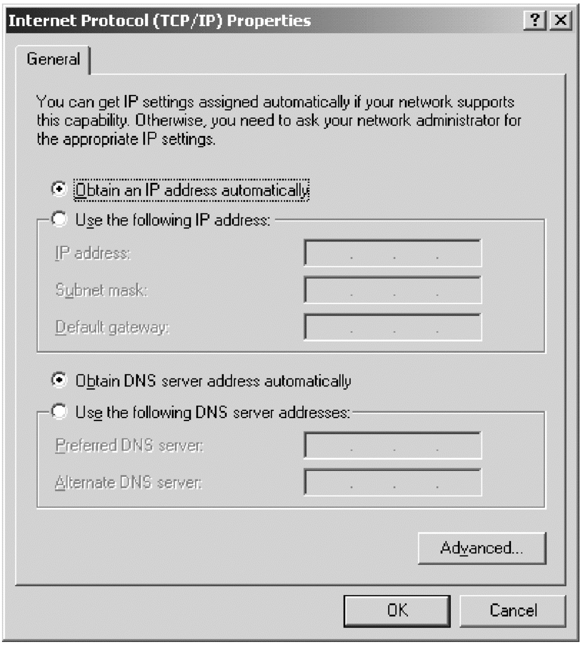
5. Selecione **Internet Protocol (TCP/IP)**.

6. Clique em **Properties**.



7. Se você possui um servidor DHCP em sua rede, selecione "Obtain an IP address automatically". Caso contrário, você poderá entrar manualmente com as informações de IP. Para obter informações adicionais, entre em contato com seu administrador de rede ou com o ISP (Fornecedor de Serviços de Internet).

8. Clique em **OK** para concluir.

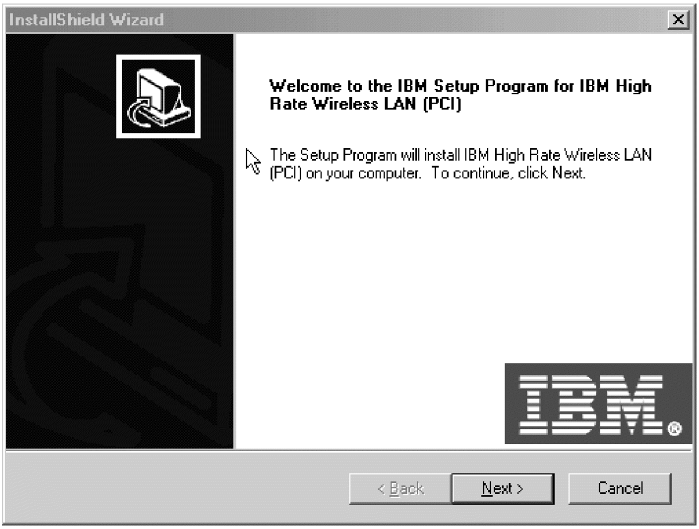


Instalando o IBM Wireless LAN Client Manager

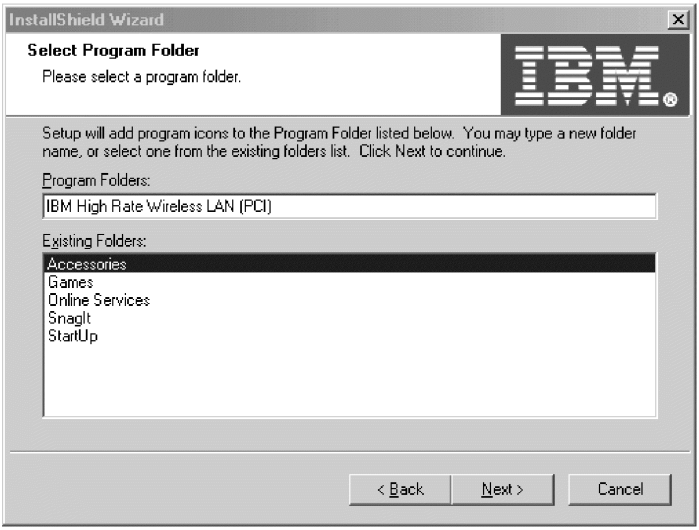
Após a instalação dos drivers de dispositivo e o reinício do computador, siga este procedimento para a instalação do IBM Wireless LAN Client Manager:

1. Insira o *CD IBM Driver and Utility* na unidade de CD-ROM.
2. Se o CD não for iniciado automaticamente, consulte seu rótulo para obter instruções.
3. Selecione Instalar **IBM Wireless LAN Client Manager**.

4. Clique em **Next**.

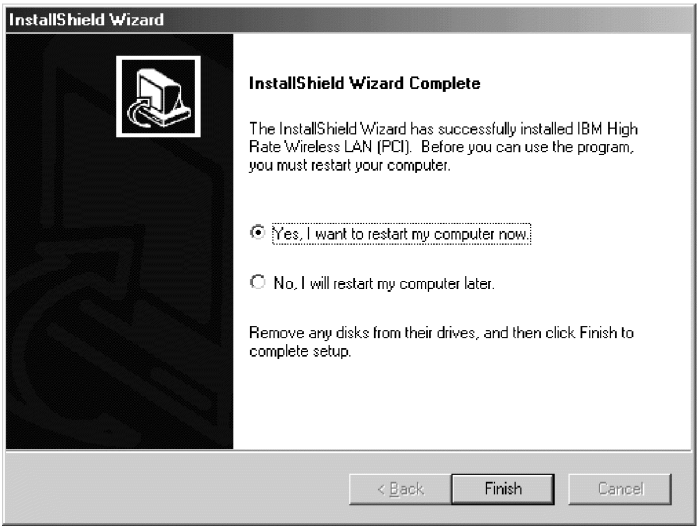


5. Selecione a Pasta de Programas na qual o atalho deverá ser instalado.
6. Clique em **Next**.



7. Selecione **Yes, I want to restart my computer now**.

8. Clique em **Finish** para concluir o procedimento de instalação.



Utilizando o IBM Wireless LAN Client Manager

As funções do IBM Wireless LAN Client Manager estão em quatro páginas:

1. Configuration
2. Encryption
3. Link
4. About

As seções a seguir descrevem essas funções.

Configuration

Esta seção descreve as definições na página Configuration.

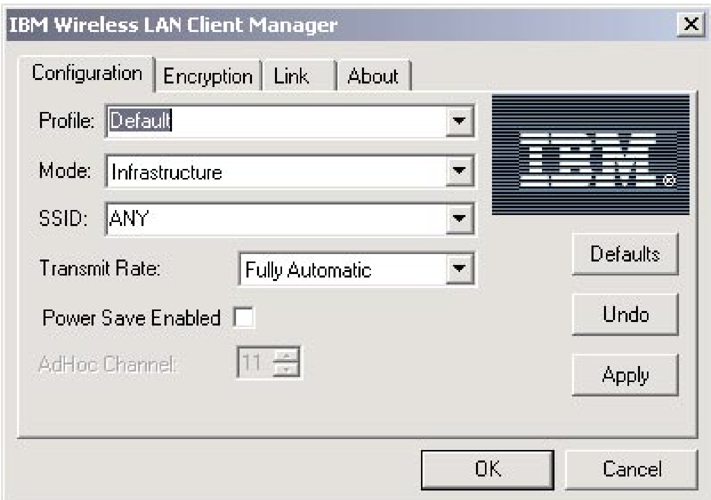
Profile

Se você não for utilizar a Placa Wireless LAN (PCI) em múltiplos ambientes de rede, que exigem definições de configuração diferentes, defina um perfil dedicado para cada ambiente. Por exemplo, crie um perfil para seu escritório e outro para o escritório de sua casa.

Cada perfil possui um nome de perfil e contém o nome da rede, o tipo de rede, o canal de comunicação, a taxa de dados de comunicação, a definição de gerenciamento de energia e quaisquer chaves de criptografia para o ambiente. A configuração inicial é armazenada no perfil padrão.

Quando você move seu computador de um ambiente para outro, é fácil alterar as definições da Placa Wireless LAN (PCI), selecionando o perfil para o novo ambiente.

Para criar um novo perfil, simplesmente digite o nome que você gostaria de dar ao perfil e faça as seleções apropriadas na janela IBM Wireless LAN Client Manager.

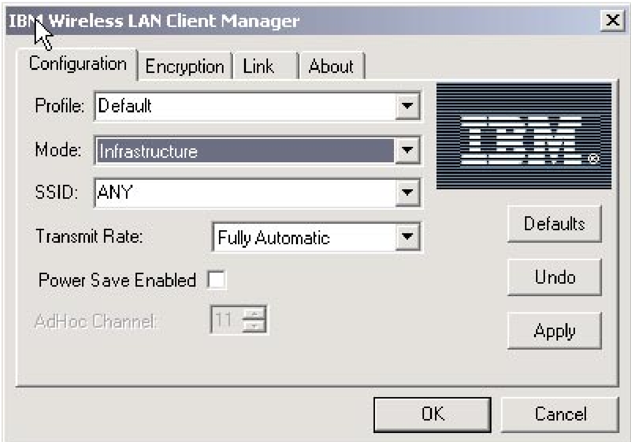


Mode

Você pode selecionar entre dois modos:

- **Infrastructure** - Uma rede de infra-estrutura consiste em estações de trabalho sem fio que ficam interconectadas através de um ponto de acesso

ou vários pontos de acesso e um backbone sem fio.



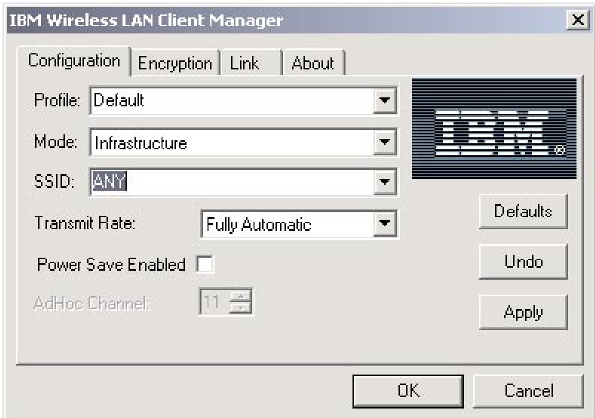
- **802.11 AdHoc** - Uma rede AdHoc consiste em estações de trabalho dentro de uma faixa de comunicação mútua, por um meio sem fio.



SSID

Para ligar seu computador a uma rede existente que inclua pontos de acesso, ou para configurar uma rede AdHoc, selecione ou digite o nome da rede no campo SSID. Se a Placa Wireless LAN (PCI) estiver sendo operada no modo Infrastructure, utilize o nome da rede de infra-estrutura ou, se desejar que a Placa Wireless LAN (PCI) seja conectada a qualquer rede de infra-estrutura IEEE 802.11 que ela puder encontrar, utilize o nome ANY (com todas as letras

em maiúsculo).



Transmit Rate

Selecione uma taxa de transmissão:

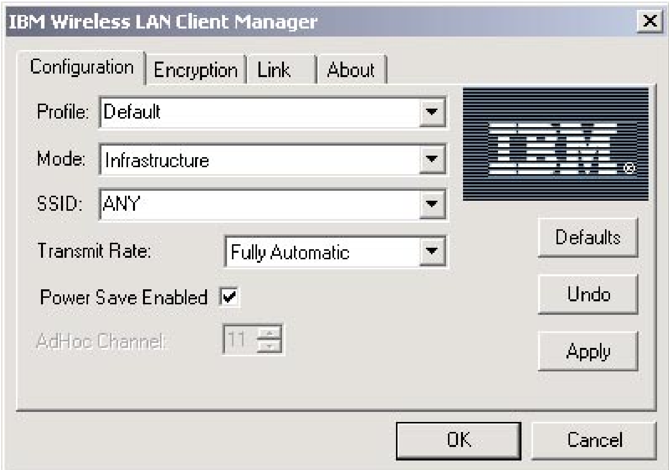
- Auto 1 ou 2 Mb
- 5.5 Mb
- 11 Mb
- Fully Automatic

Nota: Fully Automatic seleciona uma ótima taxa de transmissão para o ambiente de rede.



Power Save Enabled

Para ativar o gerenciamento de energia, selecione a caixa de entrada **Power Save Enabled**.



AdHoc Channel

O campo **AdHoc Channel** só estará disponível se você tiver selecionado 802.11 AdHoc no campo Mode. Selecione um número de canal de 1 a 14. Em alguns países, somente 11 canais poderão estar disponíveis.



Encryption

Esta seção descreve as configurações na página Encryption.



Encryption (WEP)

Selecione **Disabled** para desativar a criptografia. Selecione **64 bit** ou **128 bit** para ativar a criptografia.

Create Key with Passphrase

Essa janela permite digitar uma frase genérica que consiste em quaisquer caracteres que tenham a senha e gerem automaticamente chaves aleatórias para você.

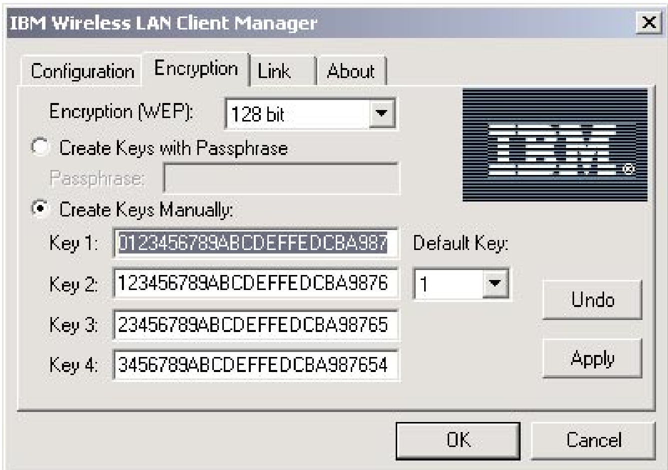




Create Key Manually

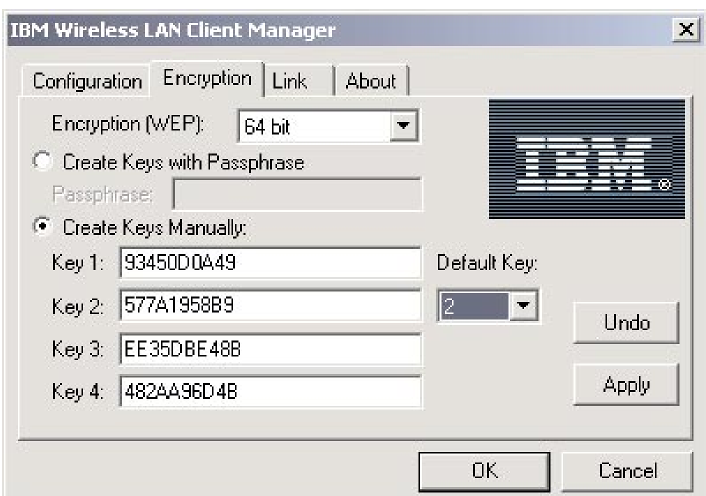
Se você ativou a criptografia e selecionou essa opção, especifique até quatro chaves diferentes para decriptografar os dados recebidos pelo computador através da rede sem fio. As chaves devem possuir valores hexadecimais. Se você selecionou criptografia de 64 bits, especifique valores hexadecimais de 10 dígitos (por exemplo, ABCD123456). Se você selecionou criptografia de 128 bits, especifique valores hexadecimais de 26 dígitos (por exemplo, ABCD123456ABCD123456987654). As únicas entradas de caractere válidas são 0-9 e A-F.





Default Key

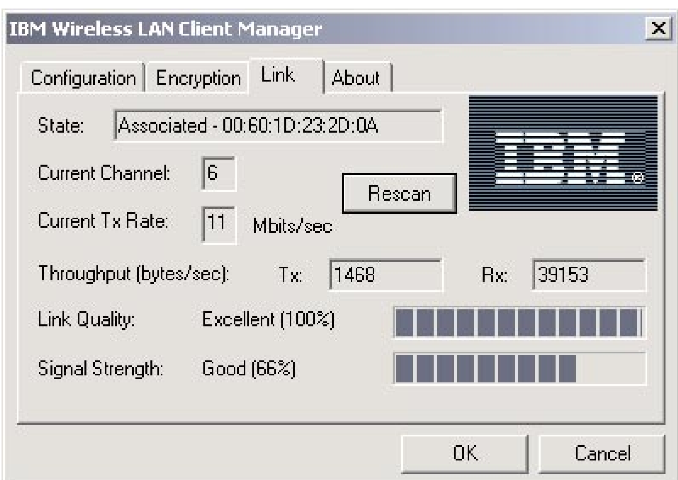
Selecione a chave que será utilizada para criptografar os pacotes que serão transmitidos de seu computador.





Link Status

Esta seção descreve as configurações da página Link.



State

Esse campo exibe o status atual da conexão do computador. O status pode ser um dos seguintes:

- The current station is disabled
- Searching for initial connection

- Associated (conectada a uma rede)
- Reassociation (uma associação atual está sendo transferida de um ponto de acesso para outro)

Current channel

Esse campo exibe o número do canal de comunicação que está sendo utilizado pela rede à qual o computador está conectado.

Current Tx Rate

Esse campo exibe a taxa de dados (em Mbits/seg) que está sendo utilizada para a transmissão de dados. Se a Placa Wireless LAN (PCI) estiver operando no modo AdHoc, esse campo não mostrará o valor correto, pois o campo exibe a taxa de dados somente no primeiro quadro.

Throughput

Esse campo exibe a taxa de rendimento (em bytes por segundo) de dados transmitidos (**Tx**) e recebidos (**Rx**).

Link Quality

Esse campo exibe a qualidade da comunicação em relação à rede à qual o computador está conectado.

Signal strength

Esse campo exibe a potência do sinal em relação à rede à qual o computador está conectado.

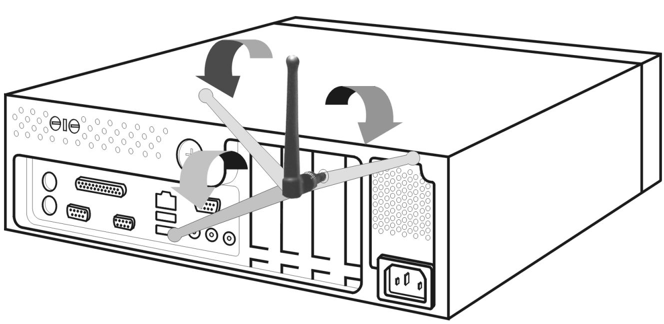
About

Essa página exibe a versão e a data de fabricação de cada componente do IBM Wireless LAN Client Manager.



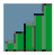
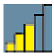
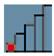
Ajustando a Orientação da Antena para Obter o Melhor Desempenho

A orientação padrão da antena apontando para cima normalmente fornece a melhor potência e qualidade de sinal. Veja a bandeja do ícone e ajuste a orientação da antena para conseguir a melhor conexão, conforme descrito em "Entendendo o Ícone da Bandeja do Sistema IBM Wireless LAN Client Manager".



Entendendo o Ícone da Bandeja do Sistema IBM Wireless LAN Client Manager

A tabela a seguir descreve o ícone da bandeja do Sistema IBM Wireless LAN Client Manager.

Ícone	Descrição
	Conexão de rádio satisfatória
	Conexão de rádio boa
	Conexão de rádio ruim
	Nenhuma conexão de rádio

Nota: Para iniciar o Client Manager, dê um clique duplo no ícone.

Apêndice A. Product warranty and support information

Warranty information

This section contains the warranty period for your product, information about obtaining warranty service and support, and the IBM Statement of Limited Warranty.

Warranty period

Contact your place of purchase for warranty service information. Some IBM Machines are eligible for on-site warranty service depending on the country or region where service is performed.

Machine - IBM High Rate Wireless LAN (PCI) User’s Guide **Warranty period** - One year

Service and support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of the product. Refer to your IBM Statement of Limited Warranty for a full explanation of IBM warranty terms.

Warranty information on the World Wide Web

The IBM Machine Warranties Web site at http://www.ibm.com/servers/support/machine_warranties/ contains a worldwide overview of the IBM Limited Warranty for IBM Machines, a glossary of terms used in the Statement of Limited Warranty, Frequently Asked Questions (FAQ), and links to Product Support Web pages. The IBM Statement of Limited Warranty is available from this Web site in 29 languages in Portable Document Format (PDF).

Online technical support

Online technical support is available during the life of your product. Online assistance can be obtained through the Personal Computing Support Web site and the IBM Automated Fax System.

Online technical support	
IBM Personal Computing Support Web site	http://www.ibm.com/pc/support/
IBM Automated Fax System	1-800-426-3395 (U.S. and Canada)

During the warranty period, assistance for replacement or exchange of defective components is available. In addition, if your IBM option is installed in an IBM computer, you might be entitled to service at your location. Your technical support representative can help you determine the best alternative.

Telephone technical support

Installation and configuration support through the IBM HelpCenter® will be withdrawn or made available for a fee, at IBM's discretion, 90 days after the option has been withdrawn from marketing. Additional support offerings, including step-by-step installation assistance, are available for a nominal fee.

To assist the technical support representative, have available as much of the following information as possible:

- Option name
- Option number
- Proof of purchase
- Computer manufacturer, model, serial number (if IBM), and manual
- Exact wording of the error message (if any)
- Description of the problem
- Hardware and software configuration information for your system

If possible, be at your computer. Your technical support representative might want to walk you through the problem during the call.

For the support telephone number and support hours by country, refer to the following table. If the number for your country or region is not listed, contact your IBM reseller or IBM marketing representative. Response time may vary depending on the number and nature of the calls received.

Support 24 hours a day, 7 days a week	
Canada (Toronto only)	416-383-3344
Canada (all other)	1-800-565-3344
U.S.A. and Puerto Rico	1-800-772-2227
All other countries and regions	Go to http://www.ibm.com/pc/support/, and click **Support Phone List**.

IBM Statement of Limited Warranty Z125-4753-06 8/2000

This warranty statement consists of two parts: Part 1 and Part 2. Be sure to read Part 1 and the country-unique terms in Part 2 that apply to your country or region.

Part 1 - General Terms

This Statement of Limited Warranty includes Part 1 - General Terms and Part 2 - Country-unique Terms. The terms of Part 2 replace or modify those of Part 1. The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you purchase for your use, and not for resale, from IBM or your reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. The term "Machine" does not include any software programs, whether pre-loaded with the Machine, installed subsequently or otherwise. Unless IBM specifies otherwise, the following warranties apply only in the country where you acquire the Machine. Nothing in this Statement of Limited Warranty affects any statutory rights of consumers that cannot be waived or limited by contract. If you have any questions, contact IBM or your reseller.

The IBM Warranty for Machines

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications ("Specifications"). The warranty period for a Machine is a specified, fixed period commencing on its Date of Installation. The date on your sales receipt is the Date of Installation unless IBM or your reseller informs you otherwise.

If a Machine does not function as warranted during the warranty period, and IBM or your reseller are unable to either 1) make it do so or 2) replace it with one that is at least functionally equivalent, you may return it to your place of purchase and your money will be refunded.

Extent of Warranty

The warranty does not cover the repair or exchange of a Machine resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible. The warranty is voided by removal or alteration of Machine or parts identification labels.

THESE WARRANTIES ARE YOUR EXCLUSIVE WARRANTIES AND REPLACE ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF EXPRESS OR IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION OR LIMITATION MAY NOT APPLY TO YOU. IN THAT EVENT, SUCH

WARRANTIES ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES APPLY AFTER THAT PERIOD.

Items Not Covered by Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

Any technical or other support provided for a Machine under warranty, such as assistance via telephone with "how-to" questions and those regarding Machine set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND.**

Warranty Service

To obtain warranty service for a Machine, contact IBM or your reseller. If you do not register your Machine with IBM, you may be required to present proof of purchase.

During the warranty period, IBM or your reseller, if approved by IBM to provide warranty service, provides without charge certain types of repair and exchange service to keep Machines in, or restore them to, conformance with their Specifications. IBM or your reseller will inform you of the available types of service for a Machine based on its country of installation. At its discretion, IBM or your reseller will 1) either repair or exchange the failing Machine and 2) provide the service either at your location or a service center. IBM or your reseller will also manage and install selected engineering changes that apply to the Machine.

Some parts of IBM Machines are designated as Customer Replaceable Units (called "CRUs"), e.g., keyboards, memory, or hard disk drives. IBM ships CRUs to you for replacement by you. You must return all defective CRUs to IBM within 30 days of your receipt of the replacement CRU. You are responsible for downloading designated Machine Code and Licensed Internal Code updates from an IBM Internet Web site or from other electronic media, and following the instructions that IBM provides.

When warranty service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. You represent that all removed items are genuine and unaltered. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced. The replacement assumes the warranty service status of the replaced item. Many features, conversions, or upgrades involve the removal of parts and their return to IBM. A part that replaces a removed part will assume the warranty service status of the removed part.

Before IBM or your reseller exchanges a Machine or part, you agree to remove all features, parts, options, alterations, and attachments not under warranty service.

You also agree to
1. ensure that the Machine is free of any legal obligations or restrictions that prevent its exchange;
2. obtain authorization from the owner to have IBM or your reseller service a Machine that you do not own; and
3. where applicable, before service is provided:
   a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provides;
   b. secure all programs, data, and funds contained in a Machine;
   c. provide IBM or your reseller with sufficient, free, and safe access to your facilities to permit them to fulfill their obligations; and
   d. inform IBM or your reseller of changes in a Machine's location.

IBM is responsible for loss of, or damage to, your Machine while it is 1) in IBM's possession or 2) in transit in those cases where IBM is responsible for the transportation charges.

Neither IBM nor your reseller is responsible for any of your confidential, proprietary or personal information contained in a Machine which you return to IBM or your reseller for any reason. You should remove all such information from the Machine prior to its return.

Limitation of Liability

Circumstances may arise where, because of a default on IBM's part or other liability, you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages from IBM (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), except for any liability that cannot be waived or limited by applicable laws, IBM is liable for no more than
1. damages for bodily injury (including death) and damage to real property and tangible personal property; and
2. the amount of any other actual direct damages, up to the charges (if recurring, 12 months' charges apply) for the Machine that is subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

   This limit also applies to IBM's suppliers and your reseller. It is the maximum for which IBM, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS IBM LIABLE FOR ANY OF THE FOLLOWING: 1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES

(OTHER THAN THOSE UNDER THE FIRST ITEM LISTED ABOVE); 2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR 3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES, LOST PROFITS OR LOST SAVINGS, EVEN IF IBM, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

Governing Law

Both you and IBM consent to the application of the laws of the country in which you acquired the Machine to govern, interpret, and enforce all of your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Part 2 - Country-unique Terms

AMERICAS

BRAZIL

Governing Law: *The following is added after the first sentence:*
Any litigation arising from this Agreement will be settled exclusively by the court of Rio de Janeiro.

NORTH AMERICA

Warranty Service: *The following is added to this Section:*
To obtain warranty service from IBM in Canada or the United States, call 1-800-IBM-SERV (426-7378).

CANADA

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*
laws in the Province of Ontario.

UNITED STATES

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*
laws of the State of New York.

ASIA PACIFIC

AUSTRALIA

The IBM Warranty for Machines: *The following paragraph is added to this Section:*
The warranties specified in this Section are in addition to any rights you may have under the Trade Practices Act 1974 or other similar legislation and are only limited to the extent permitted by the applicable legislation.

Limitation of Liability: *The following is added to this Section:*
Where IBM is in breach of a condition or warranty implied by the Trade Practices Act 1974 or other similar legislation, IBM's liability is limited to the repair or replacement of the goods or the supply of equivalent goods. Where that condition or warranty relates to right to sell, quiet possession or clear title, or the goods are of a kind ordinarily acquired for personal, domestic or household use or consumption, then none of the limitations in this paragraph apply.

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*
laws of the State or Territory.

CAMBODIA, LAOS, AND VIETNAM

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*
laws of the State of New York.

The following is added to this Section:
Disputes and differences arising out of or in connection with this Agreement shall be finally settled by arbitration which shall be held in Singapore in accordance with the rules of the International Chamber of Commerce (ICC). The arbitrator or arbitrators designated in conformity with those rules shall have the power to rule on their own competence and on the validity of the Agreement to submit to arbitration. The arbitration award shall be final and binding for the parties without appeal and the arbitral award shall be in writing and set forth the findings of fact and the conclusions of law.

All proceedings shall be conducted, including all documents presented in such proceedings, in the English language. The number of arbitrators shall be three, with each side to the dispute being entitled to appoint one arbitrator.

The two arbitrators appointed by the parties shall appoint a third arbitrator before proceeding upon the reference. The third arbitrator shall act as chairman of the proceedings. Vacancies in the post of chairman shall be filled by the

president of the ICC. Other vacancies shall be filled by the respective nominating party. Proceedings shall continue from the stage they were at when the vacancy occurred.

If one of the parties refuses or otherwise fails to appoint an arbitrator within 30 days of the date the other party appoints its, the first appointed arbitrator shall be the sole arbitrator, provided that the arbitrator was validly and properly appointed.

The English language version of this Agreement prevails over any other language version.

HONG KONG AND MACAU

Governing Law: *The following replaces "laws of the country in which you acquired the Machine" in the first sentence:*
laws of Hong Kong Special Administrative Region.

INDIA

Limitation of Liability: *The following replaces items 1 and 2 of this Section:*
1. liability for bodily injury (including death) or damage to real property and tangible personal property will be limited to that caused by IBM's negligence;
2. as to any other actual damage arising in any situation involving nonperformance by IBM pursuant to, or in any way related to the subject of this Statement of Limited Warranty, IBM's liability will be limited to the charge paid by you for the individual Machine that is the subject of the claim.

JAPAN

Governing Law: *The following sentence is added to this Section:*
Any doubts concerning this Agreement will be initially resolved between us in good faith and in accordance with the principle of mutual trust.

NEW ZEALAND

The IBM Warranty for Machines: *The following paragraph is added to this Section:*
The warranties specified in this Section are in addition to any rights you may have under the Consumer Guarantees Act 1993 or other legislation which cannot be excluded or limited. The Consumer Guarantees Act 1993 will not apply in respect of any goods which IBM provides, if you require the goods for the purposes of a business as defined in that Act.

Limitation of Liability: *The following is added to this Section:*
Where Machines are not acquired for the purposes of a business as defined in the Consumer Guarantees Act 1993, the limitations in this Section are subject to the limitations in that Act.

PEOPLE'S REPUBLIC OF CHINA (PRC)

Governing Law: *The following replaces this Section:*
Both you and IBM consent to the application of the laws of the State of New York (except when local law requires otherwise) to govern, interpret, and enforce all your and IBM's rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Agreement, without regard to conflict of law principles.

Any disputes arising from or in connection with this Agreement will first be resolved by friendly negotiations, failing which either of us has the right to submit the dispute to the China International Economic and Trade Arbitration Commission in Beijing, the PRC, for arbitration in accordance with its arbitration rules in force at the time. The arbitration tribunal will consist of three arbitrators. The language to be used therein will be English and Chinese. An arbitral award will be final and binding on all the parties, and will be enforceable under the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958).

The arbitration fee will be borne by the losing party unless otherwise determined by the arbitral award.

During the course of arbitration, this Agreement will continue to be performed except for the part which the parties are disputing and which is undergoing arbitration.

EUROPE, MIDDLE EAST, AFRICA (EMEA)

THE FOLLOWING TERMS APPLY TO ALL EMEA COUNTRIES:
The terms of this Statement of Limited Warranty apply to Machines purchased from IBM or an IBM reseller.

Warranty Service:

If you purchase an IBM Machine in Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland or United Kingdom, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM. If you purchase an IBM Personal Computer Machine in Albania, Armenia, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia,

Czech Republic, Georgia, Hungary, Kazakhstan, Kirghizia, Federal Republic of Yugoslavia, Former Yugoslav Republic of Macedonia (FYROM), Moldova, Poland, Romania, Russia, Slovak Republic, Slovenia, or Ukraine, you may obtain warranty service for that Machine in any of those countries from either (1) an IBM reseller approved to perform warranty service or (2) from IBM.

If you purchase an IBM Machine in a Middle Eastern or African country, you may obtain warranty service for that Machine from the IBM entity within the country of purchase, if that IBM entity provides warranty service in that country, or from an IBM reseller, approved by IBM to perform warranty service on that Machine in that country. Warranty service in Africa is available within 50 kilometers of an IBM authorized service provider. You are responsible for transportation costs for Machines located outside 50 kilometers of an IBM authorized service provider.

Governing Law:

The applicable laws that govern, interpret and enforce rights, duties, and obligations of each of us arising from, or relating in any manner to, the subject matter of this Statement, without regard to conflict of laws principles, as well as Country-unique terms and competent court for this Statement are those of the country in which the warranty service is being provided, except that in 1) Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, Former Yugoslav Republic of Macedonia, Romania, Slovakia, Slovenia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan, the laws of Austria apply; 2) Estonia, Latvia, and Lithuania, the laws of Finland apply; 3) Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Djibouti, Democratic Republic of Congo, Equatorial Guinea, France, Gabon, Gambia, Guinea, Guinea-Bissau, Ivory Coast, Lebanon, Mali, Mauritania, Morocco, Niger, Senegal, Togo, and Tunisia, this Agreement will be construed and the legal relations between the parties will be determined in accordance with the French laws and all disputes arising out of this Agreement or related to its violation or execution, including summary proceedings, will be settled exclusively by the Commercial Court of Paris; 4) Angola, Bahrain, Botswana, Burundi, Egypt, Eritrea, Ethiopia, Ghana, Jordan, Kenya, Kuwait, Liberia, Malawi, Malta, Mozambique, Nigeria, Oman, Pakistan, Qatar, Rwanda, Sao Tome, Saudi Arabia, Sierra Leone, Somalia, Tanzania, Uganda, United Arab Emirates, United Kingdom, West Bank/Gaza, Yemen, Zambia, and Zimbabwe, this Agreement will be governed by English Law and disputes relating to it will be submitted to the exclusive jurisdiction of the English courts; and 5) in Greece, Israel, Italy, Portugal, and Spain any legal claim arising out of this Statement will be brought before, and finally settled by, the competent court of Athens, Tel Aviv, Milan, Lisbon, and Madrid, respectively.

THE FOLLOWING TERMS APPLY TO THE COUNTRY SPECIFIED:

AUSTRIA AND GERMANY

The IBM Warranty for Machines: *The following replaces the first sentence of the first paragraph of this Section:*
The warranty for an IBM Machine covers the functionality of the Machine for its normal use and the Machine's conformity to its Specifications.

The following paragraphs are added to this Section:

The minimum warranty period for Machines is six months. In case IBM or your reseller is unable to repair an IBM Machine, you can alternatively ask for a partial refund as far as justified by the reduced value of the unrepaired Machine or ask for a cancellation of the respective agreement for such Machine and get your money refunded.

Extent of Warranty: *The second paragraph does not apply.*

Warranty Service: *The following is added to this Section:*
During the warranty period, transportation for delivery of the failing Machine to IBM will be at IBM's expense.

Limitation of Liability: *The following paragraph is added to this Section:*
The limitations and exclusions specified in the Statement of Limited Warranty will not apply to damages caused by IBM with fraud or gross negligence and for express warranty.

The following sentence is added to the end of item 2:
IBM's liability under this item is limited to the violation of essential contractual terms in cases of ordinary negligence.

EGYPT

Limitation of Liability: *The following replaces item 2 in this Section:*
as to any other actual direct damages, IBM's liability will be limited to the total amount you paid for the Machine that is the subject of the claim. For purposes of this item, the term "Machine" includes Machine Code and Licensed Internal Code.

Applicability of suppliers and resellers (unchanged).

FRANCE

Limitation of Liability: *The following replaces the second sentence of the first paragraph of this Section:*
In such instances, regardless of the basis on which you are entitled to claim damages from IBM, IBM is liable for no more than: *(items 1 and 2 unchanged)*.

IRELAND

Extent of Warranty: *The following is added to this Section:*
Except as expressly provided in these terms and conditions, all statutory conditions, including all warranties implied, but without prejudice to the generality of the foregoing all warranties implied by the Sale of Goods Act 1893 or the Sale of Goods and Supply of Services Act 1980 are hereby excluded.

Limitation of Liability: *The following replaces items one and two of the first paragraph of this Section:*
1. death or personal injury or physical damage to your real property solely caused by IBM's negligence; and
2. the amount of any other actual direct damages, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim.

Applicability of suppliers and resellers (unchanged).

The following paragraph is added at the end of this Section:
IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

ITALY

Limitation of Liability: *The following replaces the second sentence in the first paragraph:*
In each such instance unless otherwise provided by mandatory law, IBM is liable for no more than:
1. *(unchanged)*
2. as to any other actual damage arising in all situations involving nonperformance by IBM pursuant to, or in any way related to the subject matter of this Statement of Warranty, IBM's liability, will be limited to the total amount you paid for the Machine that is the subject of the claim.
Applicability of suppliers and resellers (unchanged).

The following replaces the third paragraph of this Section:
Unless otherwise provided by mandatory law, IBM and your reseller are not liable for any of the following: *(items 1 and 2 unchanged)* 3) indirect damages, even if IBM or your reseller is informed of their possibility.

SOUTH AFRICA, NAMIBIA, BOTSWANA, LESOTHO AND SWAZILAND

Limitation of Liability: *The following is added to this Section:*
IBM's entire liability to you for actual damages arising in all situations involving nonperformance by IBM in respect of the subject matter of this

Statement of Warranty will be limited to the charge paid by you for the individual Machine that is the subject of your claim from IBM.

UNITED KINGDOM

Limitation of Liability: *The following replaces items 1 and 2 of the first paragraph of this Section:*

1. death or personal injury or physical damage to your real property solely caused by IBM's negligence;
2. the amount of any other actual direct damages or loss, up to 125 percent of the charges (if recurring, the 12 months' charges apply) for the Machine that is the subject of the claim or which otherwise gives rise to the claim;

The following item is added to this paragraph:
3. breach of IBM's obligations implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

Applicability of suppliers and resellers (unchanged).

The following is added to the end of this Section:
IBM's entire liability and your sole remedy, whether in contract or in tort, in respect of any default shall be limited to damages.

Apêndice B. Notices

This publication was developed for products and services offered in the U.S.A.

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IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

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Any references in this publication to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those

Web sites. The materials at those Web sites are not part of the materials for this IBM product, and use of those Web sites is at your own risk.

Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Trademarks

The following terms are trademarks of International Business Machines Corporation in the United States, other countries, or both:

IBM
HelpCenter
NetVista

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be the trademarks or service marks of others.

Electronic emission notices

IBM High Rate Wireless LAN (PCI) Card

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible party:
International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Telephone: 1-919-543-2193

Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Industry Canada Class B emission compliance statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformite a la reglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Deutsche EMV-Direktive (electromagnetische Verträglichkeit)

Zulassungbescheinigunglaut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336):

Dieses Gerät ist berechtigt in Übereinstimmungmit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die:

IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse B.

EN 50082-1 Hinweis:

"Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgetlegt), dann kann es dabei eventuell gest÷rt werden. In solch einem FA11 ist der Abstand bzw. die Abschirmungzu der industriellen St÷rquelle zu vergr÷ßern."

Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

European Union - emission directive

This product is in conformity with the protection requirements of EU Council Directive 89/336/ECC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

IBM can not accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Union Européenne - Directive Conformité électromagnétique

Ce produit est conforme aux exigences de protection de la Directive 89/336/EEC du Conseil de l'UE sur le rapprochement des lois des États membres en matière de compatibilité électromagnétique.

IBM ne peut accepter aucune responsabilité pour le manquement aux exigences de protection résultant d'une modification non recommandée du produit, y compris l'installation de cartes autres que les cartes IBM.

Ce produit a été testé et il satisfait les conditions de l'équipement informatique de Classe B en vertu de Standard européen EN 55022. Les conditions pour l'équipement de Classe B ont été définies en fonction d'un contexte résidentiel ordinaire afin de fournir une protection raisonnable contre l'interférence d'appareils de communication autorisés.

Unione Europea - Directiva EMC (Conformidad électromagnética)

Este producto satisface los requisitos de protección del Consejo de la UE, Directiva 89/336/CEE en lo que a la legislatura de los Estados Miembros sobre compatibilidad electromagnética se refiere.

IBM no puede aceptar responsabilidad alguna si este producto deja de satisfacer dichos requisitos de protección como resultado de una modificación no recomendada del producto, incluyendo el ajuste de tarjetas de opción que no sean IBM.

Este producto ha sido probado y satisface los límites para Equipos Informáticos Clase B de conformidad con el Estándar Europeo EN 55022. Los límites para los equipos de Clase B se han establecido para entornos residenciales típicos a fin de proporcionar una protección razonable contra las interferencias con dispositivos de comunicación licenciados.

Union Europea - Normativa EMC

Questo prodotto è conforme alle normative di protezione ai sensi della Direttiva del Consiglio dell'Unione Europea 89/336/CEE sull'armonizzazione legislativa degli stati membri in materia di compatibilità elettromagnetica.

IBM non accetta responsabilità alcuna per la mancata conformità alle normative di protezione dovuta a modifiche non consigliate al prodotto, compresa l'installazione di schede e componenti di marca diversa da IBM.

Le prove effettuate sul presente prodotto hanno accertato che esso rientra nei limiti stabiliti per le le apparecchiature di informatica Classe B ai sensi del Norma Europea EN 55022. I limiti delle apparecchiature della Classe B sono stati stabiliti al fine di fornire ragionevole protezione da interferenze mediante dispositivi di comunicazione in concessione in ambienti residenziali tipici.

이 기기는 가정용으로 전자파 적합등록을 기기로서

주거지역에서는 물론 모든 지역에서 사용 할 수 있습니다.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。 取扱説明書に従って正しい取り扱いをして下さい。

Japanese statement of compliance for products less than or equal to 20 A per phase

高調波ガイドライン適合品

Apêndice C. Wireless Regulatory Information

The device must be installed and used in strict accordance with the instructions as described hereafter. This product complies with the following radio frequency and safety standards:

USA - Federal Communications Commission (FCC)

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.
3. **FCC RF Radiation Exposure Statement:** This device and its antenna(s) must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users must be provided with specific operating instructions for satisfying RF exposure compliance.

Canada - Industry Canada (IC)

Low Power License-Exempt Radio communication Devices (RSS-210). Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Europe - CE Declaration of Conformity

- Hereby Universal Scientific Industrial Co. Ltd. declares that the IBM High Rate Wireless LAN PCI adapter device integrated in this product is in conformity with the essential requirements and other relevant provisions of Directive 1999/5/EC. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product.
- Universal Scientific Industrial Co. Ltd. déclare par la présente que le dispositif IBM High Rate Wireless LAN PCI adapter device intégrésà ce produit sont en conformité avec les principales exigences et autres dispositions appropriées de la Directive 1999/5/EC. IBM décline toute responsabilité en cas de modification non recommandée de ces produits.
- Universal Scientific Industrial Co. Ltd. erklären hiermit, dass die in diesem Produkt integrierte drahtlose IBM High Rate Wireless LAN PCI adapter device die Voraussetzungen sowie alle wichtigen Anforderungen der

Richtlinie 1999/5/EC erfüllen. IBM übernimmt keine Verantwortung für Fehler, die sich aus einer nicht empfohlenen, unsachgemäßen Modifizierung an diesem Produkt zur Erfüllung der Sicherheitsanforderungen ergeben.

CE 0560

Universal Scientific Industrial Co., Ltd.

CE Declaration of Conformity

For the following equipment:
IEEE 802.11b Wireless LAN PCI Adapter
(Product Name)
PCI111200
(Model Designation)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to the European Council Directive 89/336/EEC, the Low Voltage Directive 73/23/EEC & The Amendment Directive 93/68/EEC, Radio & Telecommunication Terminal Equipment Directive (R&TTE) 1999/5/EC. For the evaluation regarding the Directives, the following standards were applied:

EN300 328-2 July 2000 V1.1.1
EN301 489-1 August 2000 V1.2.1
EN301 489-17 September 2000 V1.1.1
EN60950 2000

The following manufacturer is responsible for this declaration:

Universal Scientific Industrial Co., Ltd.
(COMPANY NAME)

135, Lane 351, Taiping Road, Sec.1, Tsao Tuen, Non-Tou, Taiwan
(COMPANY ADDRESS)

TEL : 886-49-2350876 FAX : 886-943226744

Fred Chen **(NAME)** Director **(TITLE)**

(SIGNATURE) Oct. 3. 2001 **(DATE)**

CE 802.11b Frequency Restrictions

802.11b (maximum power > 10 mW and <100 mW)

Belgie B: Gebruik buiten gebouw alleen op kanalen 10 (2462 MHz) en 11 (2467 MHz). Voor privé-gebruik buiten gebouw over publieke grond over afstand kleiner dan 300m geen registratie bij BIPT/IBPT nodig; voor gebruik over

afstand groter dan 300m is wel registratie bij BIPT/IBPT nodig. Voor publiek gebruik buiten gebouwen is licentie van BIPT/IBPT verplicht. Voor registratie of licentie kunt u contact opnemen met BIPT.

Belgium B: For outdoor usage only channel 10 (2462 MHz) and 11 (2467 MHz) is allowed. For private usage outside buildings across public grounds over less than 300m no special registration with IBPT/BIPT is required. Registration to IBPT/BIPT is required for private usage outside buildings across public grounds over more than 300m. An IBPT/BIPT licence is required for public usage outside building. For registration and license please contact IBPT/BIPT.

Belgique B: L'utilisation en extérieur est autorisée sur le canal 10 (2462 MHz) et 11 (2467 MHz). Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

France F: A l'intérieur des bâtiments, utilisation sans contrainte géographique avec puissance maximale de 100 mW dans la bande 2446,5-2483,5 MHz. A l' extérieur des bâtiments, utilisation non autorisée. Vous pouvez contacter l'Autorité de Régulation des Télécommuniations (http://www.art-telecom.fr) pour tout aute cas particulier.

France F: Indoor, no geographical restriction with a maximum power of 100 mW within the band of 2446.5-2483.5 MHz. Outdoor, the band is not opened. Please contact ART for any other specific case.

Deutschland D: Anmeldung im Outdoor-Bereich notwending, aber nicht genehmigungspflichtig.

Germany D: License required for outdoor installations.

Italia I: E' necessaria la concessione ministeriale anche per l'uso interno. L'uso per installazione in esterni non e' permessa.

Italy I: License required for indoor use. Use with outdoor installations not allowed.

The Netherlands: NLLicense required for outdoor installations.

Nederland: NLLicentie verplicht voor gebruik met buitenantennes.

Japan:

下記「電波干渉についての注意」は、重要な注意事項なので、
このページを印刷して大切に保管してください。

電波干渉についての注意

この機器の使用周波数は2.4GHz帯です。この周波数帯ではレンジ等の産業・科学・医療用機器のほか、他の同種無線局、工場の製造ライン等で使用される免許を要する移動体識別用構内無線局、免許を要しない特定小電力無線局、アマチュア無線局等（以下「他の無線局」と略す）が運用されています。

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- 万一、この機器と「他の無線局」との間に電波干渉が発生した場合には、速やかにこの機器の使用チャンネルを変更するか、使用場所を変えるか、又は機器の運用を停止（電波の発射を停止）してください。
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連絡先 ： ダイヤルIBM
（最新の電話番号は、次のホームページでご確認ください。
http://www-6.ibm.com/jp/services/its/info/ ）

2.4 DS 4

この無線機器は 2.4GHz 帯周波数、DS-SS 変調方式を採用しており、与干渉距離は 40m です。

Impresso em Brazil